SBIR/STTR Programs

Small Business Innovation Research
Small Business Technology Transfer

"Gain the Competitive Edge in Getting Free Federal Government Funding"

Thomas Hamilton Group

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Agenda

- Federal SBIR/STTR Program - What is it?
- Information on 11 Agency Programs and Contacts
- In-Depth Discussion of NASA Topics
- How to Win?
- Why Participate in SBIR?
- Questions and Follow Up

Federal SBIR Program

- Participation includes 11 Federal Agencies
- $2.3 Billion Program in FY09
- Expected Funding for FY10 is ~$2.3 Billion
- Multiple Solicitation Dates for “Some” Agencies

What is SBIR?

SBIR is a Congressionally mandated program established In 1982 for small businesses to:

- Stimulate SB technological innovation
- Increase private sector commercialization of innovations derived from federal R&D
- Use small business participation to meet federal research and development needs
- Foster and encourage participation by minority and disadvantaged companies in technological innovation

How do YOU Qualify for SBIR?

- Small Business of 500 or fewer employees

- Principal Investigator must spend more than 1/2 of time employed by the proposing firm

- During Phase I, a minimum of 2/3 effort must be performed by the proposing firm

- During Phase II, a minimum of 1/2 of the effort must be performed by the proposing firm

- Work must be performed in the United States

SBIR Program
Eligibility Checkpoints

- Organized for-profit U.S. small business
- At least 51% U.S. owned and
  independently operated
- Small business located in the U.S.
- Principal Investigator's primary employment is with small business during the project

SBIR is a Three Phase Program

- **Phase I** is a 6 month, $100K effort to determine the "feasibility of the proposed innovation".
  - Phase I contracts are based on proposals received in response to the program's annual solicitation

- **Phase II** is a 2 year, $600K research, development, and demonstration effort leading to commercialization of the product or service.
  - Phase II contracts are only awarded to successful Phase I contractors

- **Phase III** is the non-SBIR funded commercialization activity based on the Phase II result.

SBIR Phase I Statistics

Winners are “small” businesses

- 69% of Phase I winners are companies with 20 people or less
- 41% of Phase I winners are companies with 10 people or less

Winners are relatively new to the program

- 39% of Phase I winners are first-time DoD winners
- 79% of Phase I DoD winners have 1 to 5 previous awards

How do You Qualify for STTR?

- Small business must perform a minimum of 40% of the work; research institution a minimum of 30%

- Research institution is a Federally Funded Research & Development Center (FFRDC), college or university, or non-profit research institution.
No size limit on research institution

- Small business must manage and control the STTR funding agreement

- Principal Investigator may be at the small business or research institution

- Small Business of 500 or fewer employees

Three Phase Programs

	SBIR	**STTR**
Phase I Project Feasibility	6 months up to $100K*	6-12 months up to $100K*
Phase II Project Development To Prototype	2 years up to $750K*	2 years up to $750K*
Phase III Commercialization	non-SBIR/non-STTR funds	

* *Duration and funding limits vary by agency*

Agency Programs are all . . . different














SBIR/STTR Solicitation Dates

Solicitation Dates May Change! - Check the Agency specific website

Open/Released Solicitations

Program	Release Dates	Accepts Proposals	Closing Dates
DoD STTR 2010A	25 Jan 2010	23 Feb 2010	24 Mar 2010
HHS/NIH SBIR/STTR (Grants)			
Non-AIDS Related Topics			
PHS 2010-2 Omnibus	15 Jan 2010	5 Mar 2010	5 Apr 2010 5 Aug 2010 5 Dec 2010
HHS/NIH SBIR/STTR (Grants)			
AIDS Related Topics Only			
PHS 2010-2 Omnibus	15 Jan 2010	5 Mar 2010	7 May 2010 7 Sep 2010 7 Jan 2011

NIH SBIR/STTR

Special Funding The NIH frequently offers special SBIR/STTR grant opportunities that are not part of their regular omnibus SBIR solicitation.

SBIR/STTR Solicitation Dates

Solicitation Dates May Change! - Check the Agency specific website

Future Solicitations

Program	Release Dates	Accepts Proposals	Closing Dates
NSF SBIR	?? Mar 2010	?? Apr 2010	?? May 2010
EPA SBIR	15 Mar 2010	15 Mar 2010	1 May 2010
DoD SBIR 2010.2	21 Apr 2010	10 May 2010	23 Jun 2010
NASA SBIR	07 Jul 2010	07 Jul 2010	01 Sep 2010
DoD STTR 2010B	20 Jul 2010	17 Aug 2010	15 Sep 2010
DoD SBIR 2010.3	20 Jul 2010	17 Aug 2010	15 Sep 2010

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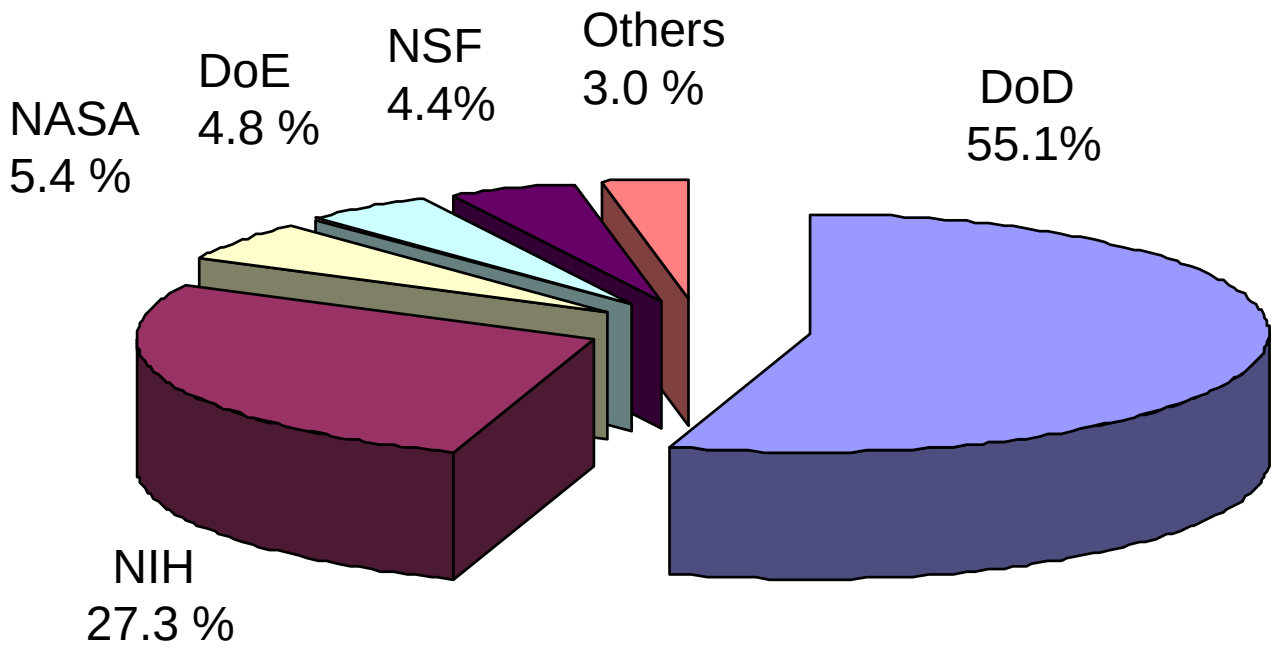
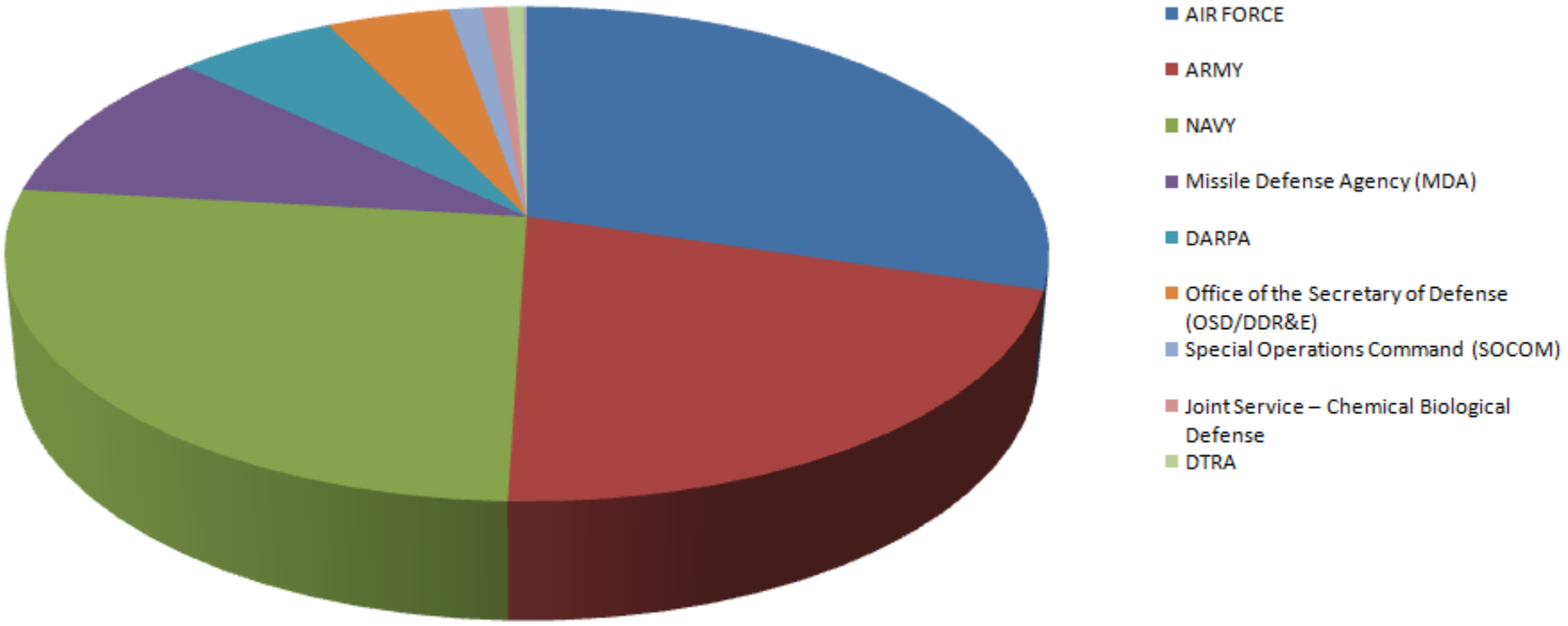
SBIR/STTR Agency Funding
FY 2009 $2.3 Billion



FY09 - Nine Organizations in DoD SBIR $1.2 Billion Budget



DoD SBIR Points of Contact

DoD SBIR Executive Director
Christopher S. Rinaldi 703-604-0157 x146

Army
John Pucci (acting) 703-806-2085

DLA (Defense Logistics Agency)
Paul Grover 804-279-4210

Navy
John Williams 703-696-0342

DoD SBIR Points of Contact

Air Force
Gus Vu 937-656-9015

CBD (Chemical & Biological Defense Office)
Larry Pollack 703-767-3307

DARPA (Defense Advanced Research Projects Agency)
Susan Nichols 571-218-4922

DMEA (Defense Microelectronics Activity)
Kevin Ranki 916-231-1644

DoD SBIR Points of Contact

DTRA (Defense Threat Reduction Agency)
Darian Cochran 703-767-2930

MDA (Missile Defense Agency)
Mike Zammit 703-882-6253

NGA (National Geospatial Agency)
Kim Walls 301-661-1980

OSD (Office of the Secretary of Defense)
Teresa Puretz 703-693-0458

SOCOM (Special Operations Command)
Shawn Patterson 813-826-1176

SBIR Points of Contact

USDA (Department of Agriculture)
Charles Cleland 202-401-4002

NOAA (National Oceanic & Atmospheric Administration)
Joseph Bishop 301-713-4100

ED (Department of Education)
Edward Metz 202-208-1983

DoE (Department of Energy)
Carl Hebron 301-903-1414

NIH (National Institutes of Heath)
Jo Anne Goodnight jg128w@nih.gov

DoT (Department of Transportation)
Leisa Moniz 617-494-2051

SBIR Points of Contact

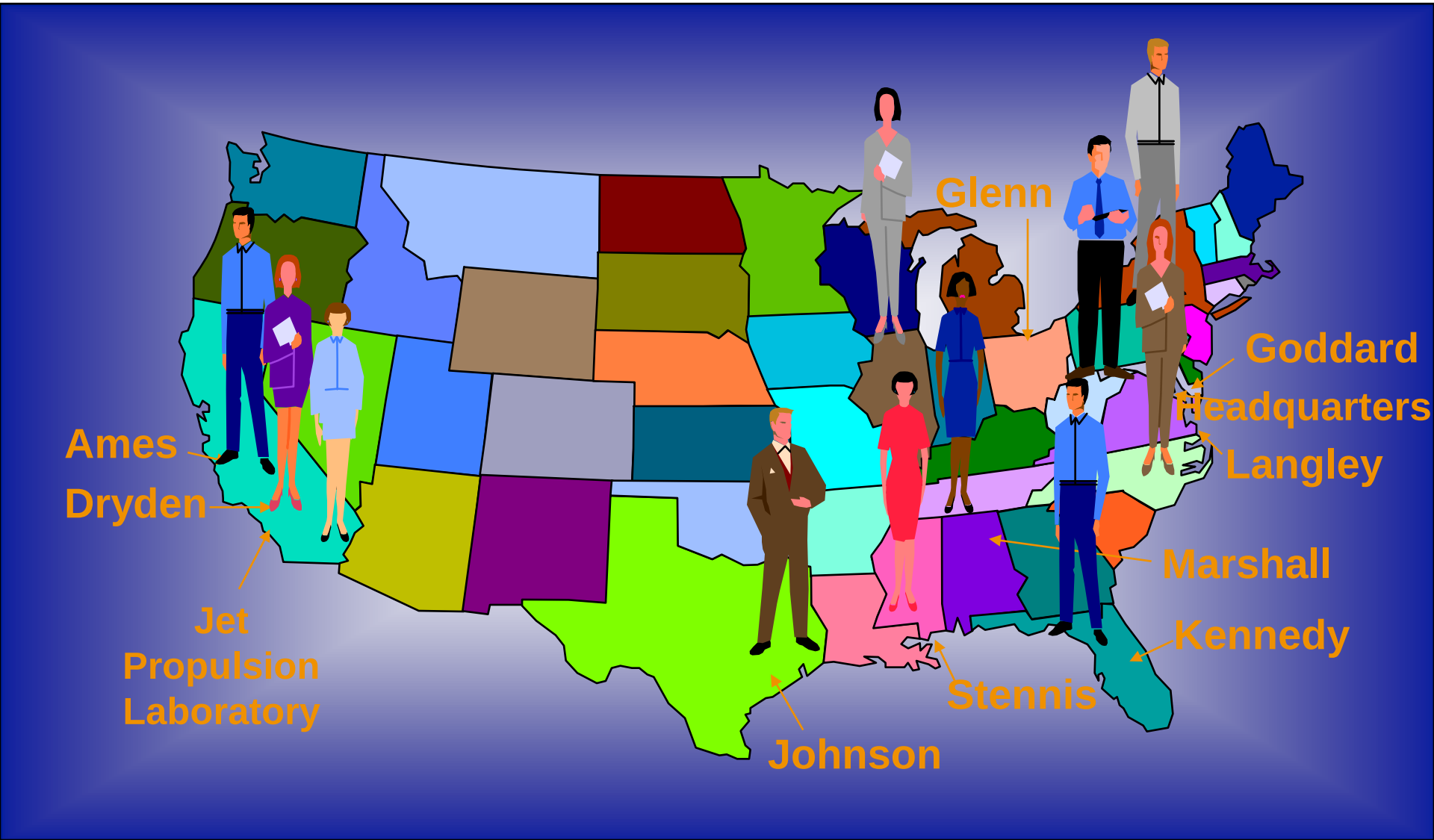
EPA (Environmental Protection Agency)
Jim Gallup gallup.james@epa.gov

NASA
Dr. Gary Jahns, 650-604-6595

NSF (National Science Foundation)
Joseph Hennessy 703-292-7069

DHS (Department of Homeland Security)
Elissa (Lisa) Sobolewski, SBIR Program Director, 202-254-6768 or via e-mail at elissa.sobolewski@dhs.gov.

All Ten NASA Centers Participate In the SBIR Program



Trends for the NASA FY10 Solicitation

- Consolidation - fewer topics and subtopics with more focus on what is wanted by NASA

- The NASA Technology needs and solicitation will be very similar to FY09 (80% continuation)

- More emphasis on higher Technology Readiness Level proposals (more mature technology)

- Emphasis on use of technology in NASA Programs and Projects

NASA Strategic Approach

- Every technology development investment dollar is critical to the success of NASA's mission
- Ultimate objective is to achieve infusion of critical technologies into NASA's Mission Directorates'
- Mission Directorates establish high priority needs and existing gaps

NASA 2009 Aeronautics Research Topics

- Aviation Safety
- Fundamental Aeronautics
- Airspace Systems
- Aeronautics Test Systems

NASA 2009 Exploration Systems Research Topics - 1

- Avionics and Software
- Environmental Control and Life Support
- Lunar In-Situ Resource Utilization
- Structures, Materials and Mechanism
- Advanced Composite Technology
- Lunar Operations
- Energy Generation and Storage

NASA 2009 Exploration Systems Research Topics - 2

- Cryogenic Systems
- Thermal Protection Systems
- Cryogenic and Non-Toxic Storable Propellant Space Engines
- Exploration Crew Health Capabilities
- Behavioral Health and Performance
- Space Human Factors and Food Systems
- Space Radiation

NASA 2009 Science Topics

- Sensors, Detectors and Instruments
- Advanced Telescope Systems
- Spacecraft and Platform Subsystems
- Low-Cost Small Spacecraft and Technologies
- Robotic Exploration Technologies
- Information Technologies

NASA Space Operations Topics

- Space Communications
- Space Transportation
- Processing and Operations
- Navigation
- Low-Cost and Reliable Access to Space (LCRATS)

NASA SBIR/STTR
Center Points of Contact - 1

- **SBIR Program Management: - Headquarters**
- **Carl Ray, NASA's SBIR & STTR Program Executive**

- **Ames Research Center (ARC)**
- **Dr. Gary Jahns, Manager SBIR/STTR Program Management Office**
- **Dr. Rich Pisarski, Technology Infusion Manager**
- **Carlos Torrez, Business Manager**

- **SBIR Program Managers for each Mission Directorate, and Technology Infusion Managers at each Center:**

- **Ames Research Center (ARC)**
- **Luis Mederos, 650-604-5268, Luis.Mederos@nasa.gov (SOMD)**
- **Kim Hines, 650-604-5582, Kimberly.K.Hines@nasa.gov**

- **Dryden Flight Research Center (DFRC)**
- **Ron Young, 661-276-3872, Ron.Young@nasa.gov**

- **Glenn Research Center (GRC)**
- **Gynelle Steele, 216-433-8258, Gynelle.C.Steele@nasa.gov (ARMD)**
- **Jim Stegeman, 216-433-3389, James.D.Stegeman@nasa.gov**

- **Goddard Space Flight Center (GSFC)**
- **Dr. Jim Chern, 301-286-5836, Jim.Chern@nasa.gov**

NASA SBIR/STTR
Center Points of Contact - 2

- **Jet Propulsion Laboratory (JPL)**
- **Dr. Carol Lewis, 818-354-3767, Carol.R.Lewis@jpl.nasa.gov**

- **Johnson Space Center (JSC)**
- **Kathy Packard, 281-244-5378, Kathryn.B.Packard@nasa.gov**

- **Kennedy Space Center (KSC)**
- **Joni Richards, 321-867-2225, Joni.M.Richards@nasa.gov**

- **Langley Research Center (LaRC)**
- **Bob Yang, 757-864-8020, Robert.L.Yang@nasa.gov (ESMD)**
- **Kimberly Graupner, 757-864-8618, Kimberly.E.Graupner@nasa.gov**

- **Marshall Space Flight Center (MSFC)**
- **Lynn Garrison, 256-544-6719, Virginia.B.Garrison@nasa.gov**

- **Stennis Space Center (SSC)**
- **Ray Bryant, 228-688-3964, Ray.Bryant-1@nasa.gov**

SBIR/STTR - Submission Process

- **All proposals are submitted electronically via the internet**

- **Make sure your proposal is received on time - late proposals are rejected**

- **Proposals are screened for administrative completeness and turned over to the managing organization for technical review**

SBIR/STTR - Selection Process

Phase I Evaluation Criteria:

1. Scientific/Technical Merit and Feasibility (50%)
2. Experience, Qualifications and Facilities (25%)
3. Effectiveness of the Proposed Work Plan (25%)
4. Commercial Potential and Feasibility (adjectival)

SBIR/STTR - Selection Process

Phase II Evaluation Criteria:

1. Scientific/Technical Merit and Feasibility (50%)
2. Experience, Qualifications and Facilities (25%)
3. Effectiveness of the Proposed Work Plan (25%)
4. Commercial Potential and Feasibility (critical)
   - Commercial Potential of the Technology
   - Commercial Intent of the Offeror
   - Capability of the Offeror to Realize Commercialization

SBIR/STTR - Selection Process

Phase II - Ranking Criteria:

1. **Value to Agency**

2. **Reasonable Chance of Success**

3. **Probability that Company Can Successfully Commercialize Technology (Phase III)**

How to Win - Suggest a Topic

- SBIR/STTR Subtopics are written for small business by researchers and managers
- Topics that solicit innovative ideas to solve technical challenges
- Each topic is carefully reviewed each year
- SBIR/STTR Programs seek private sector input in selecting and refining potential topic areas for future SBIR and STTR solicitations

How to Win -
Read the Solicitation

- NASA Phase I Proposals are $100K for 6 months*
- Air Force Phase I proposals $100K for 9 months
- MDA, Army and OSD Phase I proposals NTE $100K for 6 months
- DARPA Phase I proposals NTE $99K for 8-12 months
- Navy Phase I proposals $70K for 7 months plus a $30K Option for 3 months

** In FY08 16 companies (6%) submitted and won NASA contracts for $70K when there was actually $100K available.*

How to Win -
Know Your Customer

- Review last year's solicitation and review the titles and some abstracts of the winning proposals in your area of interest

- If there is a pre-solicitation on the Web read and comment on the text

- Suggest topics areas and text, if appropriate

- Talk to the people in your technical area who write subtopics and review proposals at the agency where you intend to submit your proposal

How to Win - Follow the Directions

- Read the directions from the sponsoring agency
- Address all areas that will be scored in the evaluation by that agency
- Don’t underestimate the importance of commercialization especially in Phase II
- Suggest topics areas and text, if appropriate to the sponsor
- Mark appropriate proposals as “Proprietary” never “confidential”. Mark only those pages that must be protected.

How to Win - Proposal Tips

- Start early and do your homework
- Lay out the evaluation criteria and write to satisfy them
- Don’t pad the proposal to get to the 25 page limit for Phase I
- Prepare your proposal in accordance with the solicitation instructions or your proposal may be rejected administratively
- Submit your proposal electronically prior to the final 24 hour rush.

How to Win - Form a Team

- If appropriate, form a team with universities or other companies when working on an STTR proposal
- Get advice from your local small business advisory resources
- Get an independent review of your proposal prior to submission
- Retain a “World Class” Consultant

Why Participate in SBIR/STTR?

Selling a Product Developed Under an SBIR

- Special rights are extended to you as an SBIR award winner.
- Any agency can provide you with a contract/Phase III without holding a competition if they chose to.
- Makes SBIR a very powerful tool for you and your federal customers.
- This allows them to more quickly acquire technology.

Why Participate in SBIR/STTR?

- Think outside the typical funding pathway box!
- Know what other federal funding is available, and seek it out with the help of your PM if possible.
- Seek out support letters with real commitments by the value chain in your Phase I & Phase II proposals

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- Think Phase III – success can come in many different forms -- DOD, other agencies, commercial.
- Business development is key – use sole source provisions if possible.

Why Participate in SBIR/STTR?

- Over **$2.3 Billion** currently available each year
- Funds are NOT A LOAN – no repayment – up to $850K capital
- Small businesses retain intellectual property rights
- Provides seed money to fund high risk projects
- Develop working relationship & credibility with government R & D
- Fosters partnerships with large corporations and academia
- Provides recognition and visibility for your businesses
- Participation attracts venture capital and other funding sources

For Further Information

•**SBIR/STTR Gateway-** Almost EVERYTHING is here!
http://www.zyn.com/sbir

•**National SBIR Conference** at Connecticut Convention Center, Hartford, CT
April 21-23, 2010 Details are at www.sbirnational.com

•**NASA Innovative Partnership Programs** Details are at
http://www.nasa.gov/offices/ipp/home/index.html

•**Federal Business Opportunities-** (the Old CBD) http://www.fedbizopps.gov
Look for Broad Area Announcements (BAAs)

•Follow up more Opportunities at www.grants.gov

•Get the information on the **NIST Technology Infusion Program** at
http://www.nist.gov/tip/

• Use the **keyword search** to find related topics at:
http://www.dodsbir.net/topics/default.asp for the **DoD** solicitation

•Call one of the agency contact names; contact me!
Tom Hamilton 323-290-0246 or hamiltongroup@ca.rr.com

Appendix - DoD STTR 2010A – Detailed TopicIndex

- DoD STTR Release Date/Open 25 January 2010-Closing Date 24 March 2010

- **Army STTR 10.A Topic Index**

- A10a-T002 Plasmonic Sensor Array
- A10a-T003 Toxic Material Forensic Container
- A10a-T004 MEMS Based Thermopile Infrared Detector Array for Chemical and Biological Sensing
- A10a-T005 Multi-input Multi-output Synthetic Aperture Radar with Collocated Antennas
- A10a-T006 LADAR Light Reflection Analysis for Target Surface Characterization
- A10a-T007 Coherent Beam Combining of Mid-IR Lasers
- A10a-T008 Laser Beam Switching, Deflection, and Frequency Shifting for Quantum Computing Applications
- A10a-T009 Hydrogen Reformation of Renewable Butanol for Military Applications
- A10a-T010 Rapid JP-8 Thermal Stability/Smoke Point Testing Methodology
- A10a-T011 Activated Reactants to Reduce Fuel Cell Overpotentials
- A10a-T012 Random Number Generation for High Performance Computing
- A10a-T001 Ultrafine Grained Steel and Nickel Based Alloy Manufacturing
- A10a-T013 Compact & Ultra-High Resolution Terahertz Spectroscopic/Fingerprint System
- A10a-T014 Plasmonic Nanoantennas for Single-Molecule, Surface-Enhanced-Raman-
- Scattering Based Sensing
- A10a-T015 Photonic Amplifiers Based on III-nitrides Grown on Si Substrates

DoD STTR 2010A – Detailed Topic Index

Army Topics (continued)

- A10a-T016 Filter-Free Concentration of Pathogens from Water Supplies
- A10a-T017 Benign, Inexpensive Simulant for Testing of Biological Standoff Sensors
- A10a-T018 High Surface-area, Mesoporous Oxide Adsorbent Sampling System
- A10a-T019 Passive Infrared Detection of Aerosolized Bacterial Spores
- A10a-T020 Topological Data Analysis and Wide Area Detection of Chemical and
- Biological Contamination
- A10a-T021 DIPAIN Based Assay for the T-2 Toxin
- A10a-T022 Cooperative Deployment of Next Generation Chemical Standoff Sensors
- A10a-T023 Narrowband Microbolometer Infrared Detectors for Chemical and Biological
- Sensing
- A10a-T024 Sustainable Materials for Thermal Management of Base Camps
- A10a-T015 Photonic Amplifiers Based on III-nitrides Grown on Si Substrates
- A10a-T025 Field-Portable Enzyme-based Rapid Toxicity Test for Drinking Water
- A10a-T026 Automated Blood Component Separator
- A10a-T027 Virtual Pedigree Template to Enhance Clinical Care and Research
- A10a-T028 Robotic Combat Casualty Extraction
- A10a-T029 Automated Support of Robotic Surgical Training, Operations, and Outcomes
- A10a-T030 Tracking and Following for Mobile Robots

DoD STTR 2010A – Detailed Topic Index

NAVY STTR 10.A Topic Index

- N10A-T001 Advanced Materials for the Design of Lightweight JP5/JP8/DS2 Fueled Engines for Unmanned Aerial Vehicles (UAVs)
- N10A-T002 Development of a Computational Method for Prediction of After-Burning Effect
- N10A-T003 Characterizing the Impact of Control Surfaces Free-Play on Flutter
- N10A-T004 Ambient Noise Interferometry for Passive Characterization of Dynamic Environments
- N10A-T005 Surface Reaction Modeling for C-SiC-SiO2-Rubber Composite Materials Exposed to High Temperature, High Pressure, Oxidizing Environments
- N10A-T006 Innovative Approaches to Resource Virtualization over Ad-Hoc Wireless Networks
- N10A-T007 Self-Healing Non-Catalytic Multifunctional Composite Structure
- N10A-T008 Adaptive Learning for Stall Pre-cursor Identification and General Impending Failure Prediction
- N10A-T009 Dynamic Physical/Data-Driven Models for System-Level Prognostics and Health Management
- N10A-T010 Analysis and Modeling of Foreign Object Damage (FOD) in Ceramic Matrix Composites (CMCs)
- N10A-T011 Prediction of the Full-Scale Cook-off Response Based on Small-Scale Testing

DoD STTR 2010A – Detailed Topic Index

- **NAVY STTR 10.A Topic Index (Continued)**
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- N10A-T012 High Efficiency Gain Media for Eye-Safer 1.55 µm Ultrafast Fiber Amplifiers
- N10A-T013 Advanced Real Time Battery Monitoring and Management System
- N10A-T014 Platform Li-Ion Battery Risk Assessment Tool
- N10A-T015 Co-mingled E and B field antennas
- N10A-T016 External Pipe Sound Pressure Level Sensor
- N10A-T017 Optical Cooling of RF systems
- N10A-T018 Lightweight Layered Protection Systems for Missile Launchers and Canisters
- N10A-T019 Multi-Modal Knowledge Acquisition from Documents
- N10A-T020 Development of Magnetostrictive Energy Harvesting of Mechanical Vibration Energy
- N10A-T021 Wideband Metamaterial Antennas Integrated into Composite Structures
- N10A-T022 Low Loss High Power Current Lead for Cryogenic Applications
- N10A-T023 Development of High-Efficiency, High Power Electron Beam Accelerator Technologies
- N10A-T024 Enhanced Riverine Drifter

DoD STTR 2010A – Detailed Topic Index

- **NAVY STTR 10.A Topic Index (Continued)**

- N10A-T025 Development of Refractory Coatings on High Strength, High Conductivity Substrates
- N10A-T026 Tactical, Energy Efficient, 4K Pulse Tube Cryocoolers
- N10A-T027 Three Dimensional Imaging Diagnostics for Dense Sprays
- N10A-T028 Probabilistic Prediction of Location-Specific Microstructure in Turbine Disks
- N10A-T029 Information System for Uncovering Deception in Unstructured Data
- N10A-T030 Powder Reactant Delivery System for Air Independent Fuel Cell
- N10A-T031 High-rate Manufacturing of Electronic Systems-on-Film
- N10A-T032 Insert ear-probe assembly for high-quality otoacoustic-emission (OAE) measurements in adults
- N10A-T033 Development of Electronic Controlled Fuel Injector and Pump Suitable for 5-20 Horsepower Diesel Cycle Engines
- N10A-T034 Naval Special Warfare (NSW) Underwater Secure Text Messaging and Diver Locater
- N10A-T035 Mathematically Rigorous Methods for Determining Software Quality
- N10A-T036 Mitigation of USV Motions via Wave Sensing and Prediction
- N10A-T037 Low-Cost Ball/Air/Magnetic Hybrid Bearing System for Extended-Life Micro Gas Turbine Engines
- N10A-T038 Translation of Mission Directives to Behaviors Including Thresholds in Autonomous Undersea Search Sensor Elements of Distributed Sensing Systems